



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/678,416 | 10/03/2003 | Paul E. Gorday | CML01150J | 1000 |
| 22917 | 7590 | 06/15/2005 | EXAMINER | |
| MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL01/3RD SCHAUMBURG, IL 60196 | | | HO, CHUONG T | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2664 | |

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

✓

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/678,416 | Applicant(s) GORDAY ET AL. | |
| | Examiner CHUONG T. HO | Art Unit 2664 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

1. Claims 1-24 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1- 3, 6-16, 17, 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al. (U.S. Patent No. 6,876,675 B1) in view of Fei et al. (U.S. 2004/0067741).

In the claims 1, see figure 2, Jones discloses these synchronization bursts have special frequency domain characteristics to facilitate receiver alignment to the transmitter's bursts timing and carrier frequency (see col. 3, lines 29-30); comprising:

- Transmitting a plurality of frequency synchronization bursts (see figure 2, col. 3, lines 28-30, these synchronization bursts have special frequency domain characteristics to facilitate receiver alignment to the transmitter's burst timing and carrier frequency) from the first transceiver device (transmitter);
- Receiving at least one of the plurality of frequency synchronization bursts at the second transceiver device (receiver) (see figure 2, col. 3, lines 28-30);
- Adjusting the second transceiver device's operating frequency (receiver) to match the frequency of the first transceiver device (transmitter) based on the at least one of the plurality of frequency synchronization burst (see figure 2, col. 3, lines 28-30, figures 4, 7);

However, Jones is silent to disclosing exchanging one or more data packets between the first (transmitter) and second transceiver devices.

Fei et al. discloses this invention relates to communication systems in which a pair of stations, each having a transmitter and a receiver, communicate using modulated carrier signals. More particular, this invention relates to compensation fore carrier frequency differences between communicating stations in such a communication system (see page. 1, [0001]); comprising:

Exchanging one or more data packets between the first (transmitter) and second transceiver devices (receiver) (see page 5, [0054], in such systems, deviation of the frequency reference source from nominal its nominal value will affect both the carrier frequency of station's transmitted signals and the carrier frequency at which the station is optimized to receive and process signals).

Both Jones, Fei discloses adjust the second transceiver device's operating frequency to match the frequency of the first transceiver device. Fei recognizes exchanging one or more data packets between the first (transmitter) and second transceiver deivces (receiver). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Jones with the teaching of Fei to exchanging the data packets between the first transceiver and the second transceiver in order to estimates the carrier frequency offset with respect to a second station and transmits signals that are responsive to the estimate carrier frequency offset.

3. Regarding to claims 2, 8, 6, 7, 9, Jones discloses transmitting a plurality of frequency synchronization bursts comprising: transmitting the plurality of frequency synchronization bursts in a suitable pattern; and transmitting frequency position information relative to each frequency synchronization bursts with respect to the data packets, the information being transmitted as a part of the frequency synchronization burst, the relative position of the frequency synchronization bursts (see col. 3, lines 28-30) being determined in terms of the time and frequency (see col. 5, lines 31-35, lines 1-10).

4. Regarding to claims 3, 10, 11, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 24, Jones discloses adjusting the operating frequency of the second transceiver device comprises: determining the frequency position information transmitted as a part of the frequency synchronization bursts; and changing the frequency of the second transceiver device based on the frequency position information, the frequency of the second transceiver device being changed to match the frequency of the first transceiver device (see col. 3, lines 28-30, col. 4, lines 63-65, col. 5, lines 1-10, lines 33-35, col. 6, lines 21-23, col. 9, lines 18-22, lines 51-53, col. 2, lines 35-40).

5. Regarding to claim 17, see figure 2, Jones discloses these synchronization bursts have special frequency domain characteristics to facilitate receiver alignment to the transmitter's bursts timing and carrier frequency (see col. 3, lines 29-30); comprising:

- Transmitting a plurality of frequency synchronization bursts from the primary communication device (transmitter), the frequency synchronization bursts

containing information about their relative position in terms of time and frequency with respect to the data packets (see figure 2, col. 3, lines 28-30);

- Receiving at least one of the plurality of frequency synchronization bursts at the second transceiver device (receiver) (see figure 2, col. 3, lines 28-30);
- Adjusting the second transceiver device's operating frequency (receiver) to match the frequency of the first transceiver device (transmitter) based on the at least one of the plurality of frequency synchronization burst, the step of adjusting comprising: i. determining the frequency position information from the frequency synchronization burst, and ii. Changing the operating frequency of the secondary communication devices based on the frequency position information, the frequency of the secondary communication devices being changed in order to match the frequency of the primary communication device (see figure 2, col. 3, lines 28-30, figures 4, 7);

However, Jones is silent to disclosing exchanging one or more data packets between the first (transmitter) and second transceiver devices.

Fei et al. discloses this invention relates to communication systems in which a pair of stations, each having a transmitter and a receiver, communicate using modulated carrier signals. More particular, this invention relates to compensation fore carrier frequency differences between communicating stations in such a communication system (see page. 1, [0001]); comprising:

Exchanging one or more data packets between the first (transmitter) and second transceiver devices (receiver) (see page 5, [0054], in such systems, deviation of the

Art Unit: 2664

frequency reference source from nominal its nominal value will affect both the carrier frequency of station's transmitted signals and the carrier frequency at which the station is optimized to receive and process signals).

Both Jones, Fei discloses adjust the second transceiver device's operating frequency to match the frequency of the first transceiver device. Fei recognizes exchanging one or more data packets between the first (transmitter) and second transceiver devices (receiver). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Jones with the teaching of Fei to exchanging the data packets between the first transceiver and the second transceiver in order to estimates the carrier frequency offset with respect to a second station and transmits signals that are responsive to the estimate carrier frequency offset.

6. Regarding to claim 18, see figure 2, Jones discloses these synchronization bursts have special frequency domain characteristics to facilitate receiver alignment to the transmitter's bursts timing and carrier frequency (see col. 3, lines 29-30); comprising:

- A first transceiver device, the first transceiver device transmitting a plurality of frequency synchronization bursts, (see figure 2, col. 3, lines 28-30), the synchronization bursts being transmitted prior to the transmission or reception of data packets;
- Receiving at least one of the plurality of frequency synchronization bursts at the second transceiver device (receiver) (see figure 2, col. 3, lines 28-30);

- Adjusting the second transceiver device's operating frequency (receiver) to match the frequency of the first transceiver device (transmitter) based on the at least one of the plurality of frequency synchronization burst (see figure 2, col. 3, lines 28-30, figures 4, 7);

However, Jones is silent to disclosing exchanging one or more data packets between the first (transmitter) and second transceiver devices.

Fei et al. discloses this invention relates to communication systems in which a pair of stations, each having a transmitter and a receiver, communicate using modulated carrier signals. More particular, this invention relates to compensation fore carrier frequency differences between communicating stations in such a communication system (see page. 1, [0001]); comprising:

Transmitting or receiving one or more data packets; and a second transceiver device, the second transceiver device receiving at least one of the plurality of frequency synchronization bursts, the second transceiver device adjusting its frequency to match the frequency of the first transceiver device, the adjustment being done in order to receive or transmit the data packets (see page 5, [0054], in such systems, deviation of the frequency reference source from nominal its nominal value will affect both the carrier frequency of station's transmitted signals and the carrier frequency at which the station is optimized to receive and process signals).

Both Jones, Fei discloses adjust the second transceiver device's operating frequency to match the frequency of the first transceiver device. Fei recognizes exchanging one or more data packets between the first (transmitter) and second

Art Unit: 2664

transceiver devices (receiver). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Jones with the teaching of Fei to exchanging the data packets between the first transceiver and the second transceiver in order to estimate the carrier frequency offset with respect to a second station and transmits signals that are responsive to the estimate carrier frequency offset.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined system (Jones – Fei) in view of Shohara et al. (U.S. Patent No. 6,473,607 B1).

In the claim 4, the combined system (Jones – Fei) discloses the limitations of claim 2 above.

However, the combined system (Jones – Fei) is silent to disclosing the second transceiver device to a low sleep mode following reception of at least one synchronization burst.

Shohara et al. discloses the second transceiver device to a low sleep mode following reception of at least one synchronization burst (see col. 2, lines 20-25).

Both Jone, Fei, and Shohara disclose synchronization bursts. Shohara discloses the second transceiver device to a low sleep mode following reception of at least one synchronization burst. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined system (Jones – Fei) with the teaching of Shohara to a low sleep mode following reception of at least one synchronization burst in order minimize power consumption.

9. In the claim 5, Shohara et al. discloses the second transceiver device to a low power sleep mode comprises: determining time position from the information transmitted with the frequency synchronization burst; and switching the second transceiver device to a low power sleep mode for a duration for a duration determined by the time position (see col. 2, lines 12-15).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUONG T. HO whose telephone number is (571) 272-3133. The examiner can normally be reached on 8:00 am to 4:00 pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

05/06/05

A handwritten signature in black ink, appearing to read 'W. Chin', with a long horizontal stroke extending to the right.

WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER